

REMARKS

Claims 15, 16, 18 and 19 have been amended and claims 21 to 25 have been added. Please charge any costs to Deposit Account No. 20=0668.

A set of formal drawings is attached which overcomes the objections to the drawings. Approval is respectfully requested.

Claims 15 to 20 were rejected under 35 U.S.C. 102(e) as being anticipated by Yang et al. (U.S. 6,468,894). The rejection is respectfully traversed.

Claim 15 requires, among other features, a second metallic interconnect having a primary via structure, the primary structure having an active diffusion volume relative to a location within the primary structure wherein voids can be located disposed between and electrically intercoupling the first and second metallic interconnects and a buffer structure, disposed upon the second metallic interconnect in proximity to the primary via structure and within the diffusion volume to buffer the primary via structure from diffusive voiding occurring at a contact point between the primary via structure and the second metallic interconnect. The terms "active diffusion volume" are defined in the specification at page 17, lines 5 to 9, "by the simultaneous intersection of the interconnect volume diffusion volume, and stress gradient region at a specific site within a device structure. Hence, 'active diffusion volume' is the smallest overlapping portion of the three volumes surrounding a vulnerable SIV site". An example is provided in Fig. 3 and discussed on page 17, lines 10ff. No such structure is taught or even remotely suggested by Yang et al. While Yang et al. shows multiple and dummy vias, nowhere is there a teaching or suggestion to place these vias in the manner claimed. In fact, Yang et al. does not even mention the problem of SIV and utilizes the dummy vias as stated in the

ABSTRACT to increase the mechanical strength of the via layer and increase the resistance to delamination and scratching during chemical mechanical polishing or CMP.

Claim 16 to 20 depend from claim 15 and therefore define patentably over Yang et al. for at least the reasons presented above with reference to claim 15.

The remaining claims are patterned after the issued claims in the parent application, except that they are in structure format. These claims also contain at least the feature discussed above with reference to claim 15. For example, claim 21 requires a primary structure having an active diffusion volume relative to a location within the primary structure wherein voids can be located and a redundant structure within the active diffusion volume to minimize movement of voids to said location.

Claims 22 to 28 depend from claim 21 and therefore define patentably over Yang et al. for at least the reasons presented above with reference to claim 21.

Claim 29 also contains the above described feature and requires, an active diffusion volume in the first layer of interconnect material within which voids can be located and a structure in the first layer within the active diffusion volume to minimize migration of the voids toward the via.

Claims 30 to 35 depend from claim 29 and therefore patentably over Yang et al. for at least the reasons presented above with reference to claim 29.

In view of the above remarks, favorable reconsideration and allowance are respectfully requested.

Respectfully submitted,

A handwritten signature in black ink, appearing to read "Jay M. Cantor".

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